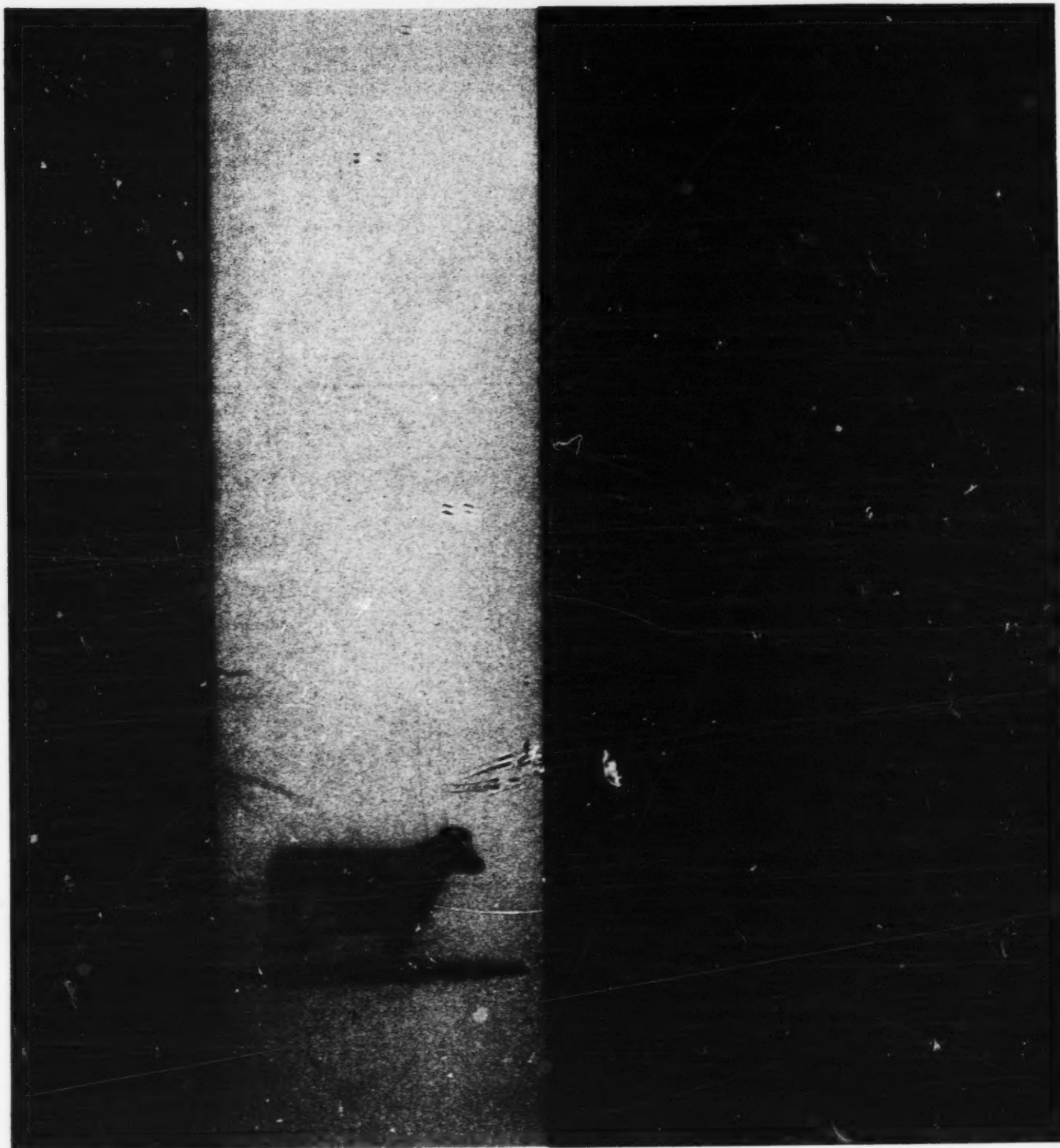




**Saskatchewan
Agriculture**

**Marketing and
Economics Division**

Farm Business Analysis, 1982 Dairy Enterprise



Preface

This publication deals with the analysis of a group of Saskatchewan dairy enterprises in 1982. The data is obtained from the actual financial and production records of farm operators. It is collected and analyzed quarterly and published on an annual basis.

The purpose of this program is threefold:

1. To obtain accurate, up-to-date data on the financial and physical performance of Saskatchewan dairy producers;
2. To provide information that will enable producers to make better production and financial decisions; and
3. To assist extension workers, lending agencies and agri-business to obtain a better understanding of the financial requirements of Saskatchewan livestock enterprises.

This publication was prepared by Lyle Stavness. The contributions of many people who assisted in compiling and reviewing this material is gratefully acknowledged. A special thank you is extended to the Saskatchewan farmers who allowed access to their records and provided the necessary supplementary information for the analysis.

Farm Business Management Section,
Saskatchewan Agriculture





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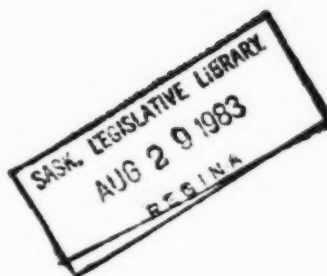
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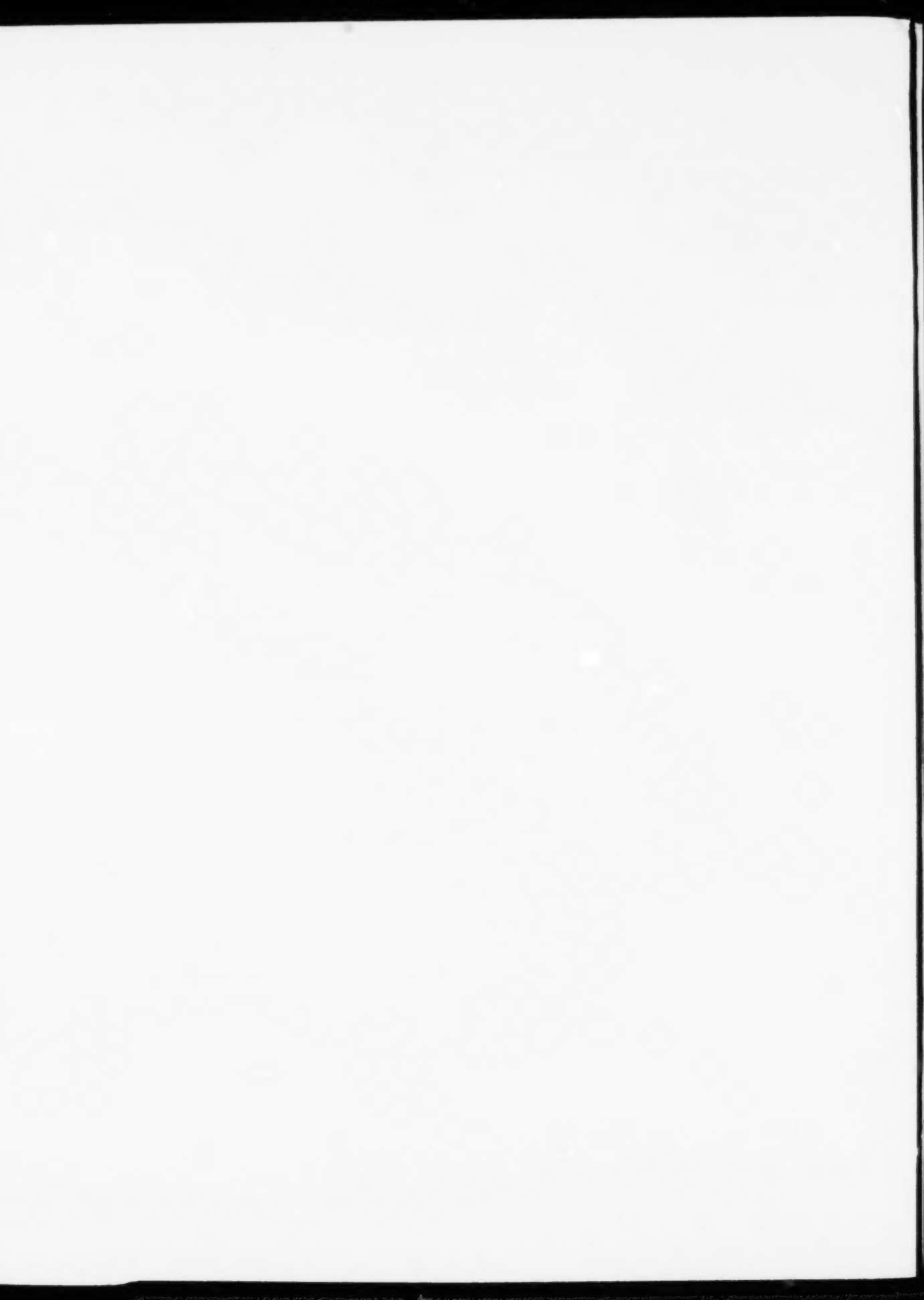
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FARM BUSINESS ANALYSIS - 1982 Dairy Enterprises

Introduction

The Saskatchewan Dairy Study was started in 1980. The purpose of this study is to obtain an accurate reflection of actual producers' costs of production for fluid milk. Forty-six farms participated in the 1982 study. This sample size represents approximately 6-7% of the total fluid milk producers.

General

The data collecting groups utilized the Canfarm system as the record system for recording financial information. The financial information was supplemented with quarterly justified inventory information on livestock numbers and feed usage.

The farms were selected according to geographic area, age, size of milking herd and level of milk production.

Sample Profile

A. Geographic Area

Saskatoon Milk Shed	62.8%
Regina Milk Shed	28.3%
Yorkton Milk Shed	13.1%
Melville Milk Shed	4.3%
Weyburn Milk Shed	4.3%

B. Age Distribution (time producing fluid milk)

Category	
1-2 years	17.4%
3-4 years	23.9%
5-6 years	17.4%
7-8 years	23.9%
9-10 years	4.3%
10 + years	13.0%

Financial Performance

Method and Assumptions

A number of adjustments were made to both the income and expenses shown on the actual farm records. Adjustments were made in order that the final cost of production statement would reflect the actual income and expenses related to the production of fluid milk. To achieve this the following methods and assumptions were used:

(a) Income -

All milk sales, subsidy, miscellaneous income, cow sales and bull sales were recorded as shown on the farm statements. The change in inventory reflects the change of supplies only on hand from the beginning of the year to the end of the year.

Patronage payments were adjusted to account for the portion not received in the 1982 year. A figure of 59% of the producers' patronage payment was used. This was to account for the non-cash portion of the patronage payment, which is paid out over a period of years. [59% was determined by taking 25% of the total patronage payment plus the present value of the remaining 75% (12% for 7 years)].

In some cases farms fed their dairy calves and thus have recorded sales of heifers, steers, and breeding stock. The income derived from these sales is associated with a feeding enterprise and not the dairy enterprise. Thus this income and an estimate of the related expenses are not included in this cost of production statement. A figure for the heifer and bull sales was calculated based on the average price received for heifer and bull calves in 1982 and multiplied by the number of calves born minus the number of deaths and is included as income in the dairy enterprise.

The cost of maintaining the dairy herd is covered by including the cost of raising replacements and by including the cost of purchased replacement animals as an expense.

C. Number of Cows

<u>Categories</u>	<u># of Farms</u>	<u>Ave. # of Cows</u>	<u>1982 Ave. Milk Prod. Per Cow</u>
20-39	12	32 head	4963 kg (10,917 lbs)
40-59	22	47 head	5409 kg (11,899 lbs)
60-79	10	67 head	5581 kg (12,278 lbs)
80 +	2	125 head	4051 kg (8,912 lbs)

D. Milk Production Per Cow

Categories

0-4000 kg/cow/year	5	71 head	3436 kg (7,557 lbs)
4001-5000 kg/cow/year	13	44 head	4703 kg (10,347 lbs)
5001-6000 kg/cow/year	16	49 head	5782 kg (12,720 lbs)
6001-7000 kg/cow/year	10	52 head	6521 kg (14,346 lbs)
7000 +	2	56 head	7032 kg (15,470 lbs)

(b) Expenses -

Costs that were attributed 100% to the dairy were included in the dairy operating statement. Other costs of which only a portion were dairy were put in an unallocated cost account and were allocated to the dairy costs on a per cent basis as determined by the producer. This eliminated any double accounting of costs.

All the expenses on the cost of production statement were taken directly from the farm records except the following:

(i) Feed Usage

The value used for home grown feed is the average price paid by farmers in this study for each feed type. The following formula was used to calculate the amount of home grown feed used:

Beginning Inventory + Harvested - Ending Inventory - Sales

The information in the harvested and inventory reports was better than the 1981 survey. The problem still arises that some of the feed used is fed to replacement and feeder stock for production. If replacement stock or feeders were sold by the dairy enterprise an estimate was made of their feed consumption and this was subtracted from the total feed used.

(ii) Operating Expenses

Interest on cash expenses is calculated at 15% for one month.

(iii) Depreciation on machinery and buildings is calculated at 15% and 5% respectively, based on the original cost.

(c) Net Cash Income -

Is the difference between the total cash receipts and the total cash expenses. This amount represents the actual dollars that a farmer has to cover his living costs debt payments, interest on loans incurred for capital purchases and to accumulate savings

(d) Net Farm Income -

Is the difference between the total value of production and the total cost of production. This amount represents a return to the farmer's labour and management, and a return to the total investment in the farm.

Observations

Net farm income for all farms in 1982 was \$554 per cow which is a drop of 16% from the 1981 figures of \$641 per cwt.

The management factors which contributed most to higher net farm income are milk production per cow and feed consumption per kilogram of milk production.

Farmers who obtained above average milk production per cow as a group had a net farm income which was 235% higher than those farmers with below average milk production.

The analysis comparing groups of farms categorized by feed consumed per kilogram of milk produced may be distorted somewhat by not being able to clearly identify the amount of feed fed to replacement and other stock. However the end result demonstrates clearly that proper feeding practices with balanced rations provides an excellent opportunity to increase the net farm income.

The above average group of farmers have combined high milk production with low feeding costs and thus produced a net farm income of more than twice the average for all farms in the sample.

Total Cost Per Dairy Cow - \$1,902

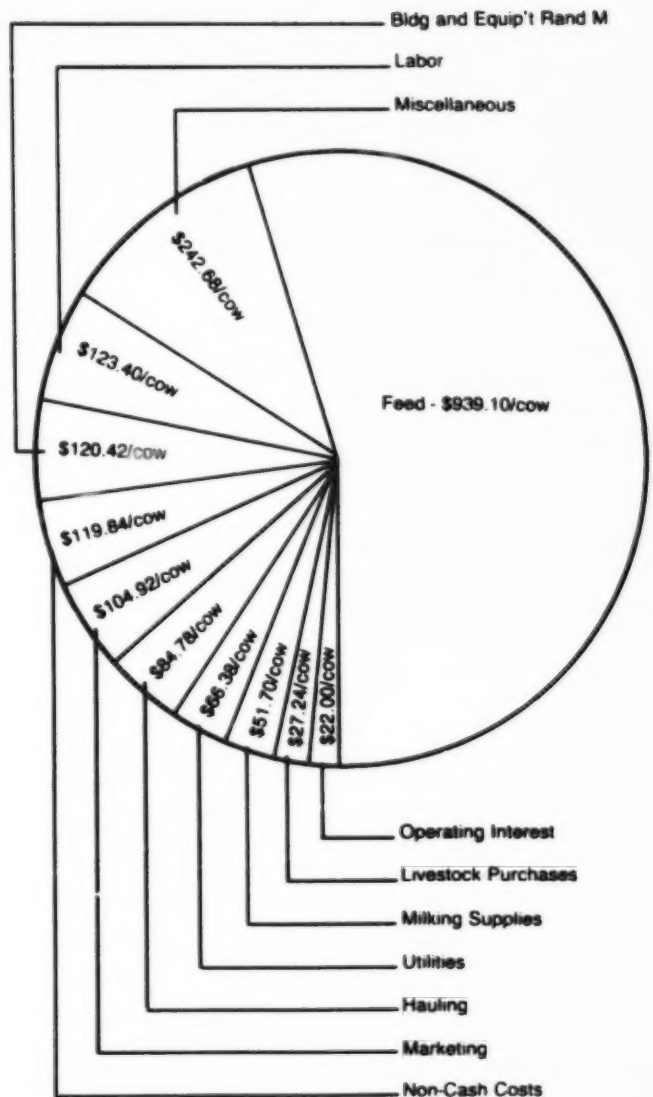


Table 1.1

Production and Investment For All Farms

Production	1981	1982
	Sample Average	Sample Average
% of Fluid Sales as % of Total Sales	95.8%	93.2%
Grain and Supplement/Cow	2.22 tonnes	1.91 tonnes
Complete Feed/Cow	0.92 tonnes	0.91 tonnes
Roughage/Cow	5.23 tonnes	5.77 tonnes
Total Feed/Cow	8.40 tonnes	8.63 tonnes
Total Income/Cow	2,566.82 \$/cow	2,456.66 \$/cow
Cash Costs/Cow	1,800.20 \$/cow	1,782.58 \$/cow
Net Cash Income/Cow	766.62 \$/cow	674.08 \$/cow
Total Cost of Production/Cow	1,925.56 \$/cow	1,902.46 \$/cow
Net Farm Income/Cow	641.26 \$/cow	554.20 \$/cow
Kg of Feed/Kg of Milk	1.5 kg Fd/kg milk	1.8 kg Fd/kg milk
Total Dollars Feed/Total Feed Quantity	117.31 \$/tonne	100.54 \$/tonne
Investment		
Building & Equipment Investment/Cow	1,839.90 \$/cow	1,630.65 \$/cow
Livestock Investment/Cow	1,730.46 \$/cow	1,543.66 \$/cow
Machinery Investment/Cow	291.63 \$/cow	271.08 \$/cow
Land Investment/Cow	66.07 \$/cow	65.48 \$/cow
Total Investment/Cow	3,928.09 \$/cow	3,510.87 \$/cow
Cash Costs as a % of Income	70.1%	72.5%
Descriptive Data		
Average Number of Cows -	53 cows	50 cows
Average Milk Production/Cow	5,439.05 kg/cow	5,297.12 kg/cow

Table 1.2

Average Income For All Farms

Description	1981		1982	
	\$/Cow	\$/Unit	\$/Cow	\$/Unit
Fluid Milk (Kg)	\$1,991.92	\$.38/Kg	\$1,932.62	\$.39/Kg
Industrial Milk (Kg)	86.15	.28/Kg	140.48	.31/Kg
Dairy Heifer Calves Raised	55.51	149.03/Hd	46.46	133.00/Hd
Dairy Bull Calves Raised	26.98	66.95/Hd	21.24	64.00/Hd
Dairy Cow Sales (HD)	140.83	687.51/Hd	130.94	599.87/Hd
Dairy Bull Sales (HD)	9.25	857.65/Hd	3.50	749.63/Hd
Subsidy	149.38		124.12	
Change in Inventory	-1.98		-3.10	
Patronage Payments	98.06		61.18	
Miscellaneous Income	10.72		.22	
Total Income	\$2,566.82		\$2,456.66	
Total Cash Income (excluding inventory change)	\$2,568.80		\$2,459.76	
Total Cash Expense	\$1,800.20		\$1,782.58	
Net Cash Income	\$ 768.60		\$ 677.18	
Total Cost of Production	\$1,925.56		\$1,902.46	
Net Farm Income	\$ 641.26		\$ 554.20	

Table 1.3
Expenses For All Farms

Cash Expenses	Sample Average			
	1981		1982	
	\$/Cow	\$/Unit	\$/Cow	\$/Unit
Cow Purchases	\$ 29.74	\$1,576/Hd	\$ 18.18	\$1,643/Hd
Heifer Purchases	71.96	1,451/Hd	9.06	1,638/Hd
Other Stock	5.32		-	
Total Livestock Purchases	\$ 107.02		\$ 27.24	
Feed Grain Purchases	\$ 90.98	\$ 129/T	\$ 68.56	\$ 112.62/T
Hay Purchases	199.09	87/T	224.32	80.66/T
Home Grown Grain	171.36	126/T	143.46	119.09/T
Home Grown Hay	272.89	198/T	253.16	81.49/T
Complete Feed	185.45	343/T	174.64	186.48/T
Supplement	64.85	34/T	40.74	299.49/T
Straw	25.42		16.82	23.05/T
Mineral and Vitamins	17.40		17.40	659.16/T
Total Feed Purchases	1,027.44		939.10	
Milk Hauling	\$ 77.72		\$ 84.78	
Milk Marketing	78.74		104.92	
Vet and Medicine	42.83		45.26	
Testing Service	7.70		5.36	
Breeding Service	20.28		20.76	
Milking Supplies	39.94		51.70	
Insurance	30.96		34.14	
Utilities	54.66		66.38	
Building R & M	56.53		52.44	
Total Related Expenses	409.36		465.72	
Livestock Hauling	\$ 11.09		\$ 6.76	
Milk Replacer	8.75		5.96	
Fuel and Lubricants	27.77		51.76	
Equipment R & M	42.00		67.98	
Hired Labour	95.49		123.40	
Custom Work	23.64		21.90	
Property Tax	4.89		6.14	
License	2.42		4.64	
Rentals	.77		22.70	
Legal and Accounting	6.51		9.44	
Miscellaneous	6.47		7.84	
Total Miscellaneous Cost	\$ 229.80		\$ 328.52	
Operating Interest	26.58		22.00	
Total Cash Expenses	\$1,800.20		\$1,782.58	
Net Cash Income	786.60		677.18	
Non-Cash Expenses				
Machinery Depreciation (15%)	\$ 46.91		\$ 45.12	
Building Depreciation (5%)	78.45		74.72	
Total Non-Cash Expenses	125.36		119.84	
Total Cost of Production	\$1,925.56		\$1,902.46	
Net Farm Income	\$ 641.26		\$ 554.20	

Table 2.1
Management Indicators and Income For All Farms
With above Average Net Farm Income

Production	Sample Average	
% of Fluid Sales as % of Total Sales		95.7%
Grain and Supplement/Cow	\$	1.79
Complete Feed/Cow		0.98
Roughage/Cow		5.44
Total Feed/Cow		8.25
Kg of Feed/Kg of Milk		1.4
Total Dollars Feed/Total Feed Quantity	\$	105.13
Investment		
Building & Equipment Investment/Cow	\$	1,776.70 \$/cow
Livestock Investment/Cow		1,647.82 \$/cow
Machinery Investment/Cow		257.89 \$/cow
Land Investment/Cow		65.72 \$/cow
Total Investment/Cow		3,748.15 \$/cow
Cash Costs as a % of Income		62.0 %
% of Feed Purchased		52.5 %
% of Feed Home Grown or Inventory		47.4 %
Net Farm Income/Total Investment		23.8 %

Descriptive Data

Average Number of Cows	58
Average Milk Production/Cow	5,702

Average Income For All Farms

<u>Description</u>	<u>\$ Total</u>
Fluid Milk (Kg)	2,194
Industrial Milk (Kg)	97
Dairy Heifer Calves Raised	49
Dairy Bull Calves Raised	24
Dairy Cow Sales (HD)	151
Dairy Bull Sales (HD)	3
Subsidy	136
Change in Inventory	-3
Patronage Payments	75
Miscellaneous Income	0
Total Income	2,726
Net Cash Income	1,035
Net Farm Income	902

Table 2.2
Expenses For All Farms With Above Average
Net Farm Income

	Sample Average
Cash Expenses	
Cow Purchases	17.00
Heifer Purchases	14.03
Other Stock	-
Total Livestock Purchases	31.03
Feed Grain Purchases	64.40
Hay Purchases	202.03
Home Grown Grain	133.69
Home Grown Hay	230.79
Complete Feed	189.26
Supplement	39.43
Straw	13.21
Mineral and Vitamins	16.76
Total Feed Purchases	889.57
Milk Hauling	97.72
Milk Marketing	114.02
Vet and Medicine	40.47
Testing Service	5.98
Breeding Service	20.90
Milking Supplies	50.26
Insurance	34.69
Utilities	55.95
Building R & M	52.76
Total Related Expenses	472.75
Livestock Hauling	11.79
Milk Replacer	5.40
Fuel and Lubricants	55.14
Equipment R & M	60.12
Hired Labour	91.55
Custom Work	23.10
Property Tax	2.59
License	6.12
Rentals	5.71
Legal and Accounting	9.27
Miscellaneous	6.29
Total Miscellaneous Cost	277.08
Operating Interest	20.86
Total Cash Expenses	1,691.29
Non Cash Expenses	
Machinery Depreciation (15%)	44.36
Building Depreciation (5%)	88.02
Total Non Cash Expenses	132.38
Total Cost of Production	1,823.67

Table 3
Expenses for Farms Categorized by Feed Consumption

Cash Expenses	Farms With Above Average Feed Consumption	Farms With Below Average Feed Consumption
Cow Purchases	27	7
Heifer Purchases	11	7
Other Stock	0	0
Total Livestock Purchases	38	14
		38
Feed Grain Purchases	95	196
Hay Purchases	253	99
Home Grown Grain	183	180
Home Grown Hay	318	196
Complete Feed	163	40
Supplement	43	14
Straw	20	13
Mineral and Vitamins	21	85
Total Feed Purchases	1,096	776
Milk Hauling	87	85
Milk Marketing	109	103
Vet and Medicine	55	34
Testing Service	7	3
Breeding Service	24	17
Milking Supplies	61	41
Insurance	36	32
Utilities	74	56
Building R & M	51	53
Total Related Expenses	504	424
Livestock Hauling	7	7
Milk Replacer	7	5
Fuel and Lubricants	57	47
Equipment R & M	78	58
Hired Labour	154	84
Custom Work	20	25
Property Tax	3	10
License	3	6
Rentals	33	10
Legal and Accounting	12	5
Miscellaneous	8	8
Total Miscellaneous Cost	382	265
Operating Interest	25	18
Total Cash Expenses	2,045	1,497
Non Cash Expenses		
Machinery Depreciation (15%)	47	45
Building Depreciation (5%)	73	79
Total Non Cash Expenses	120	124
Total Cost of Production	2,165	1,621

Table 4
Expenses For Farms Categorized by Milk Production

Cash Expenses	Above Average Milk Production	Below Average Milk Production
Cow Purchases	30	5
Heifer Purchases	17	0
Other Stock	0	0
Total Livestock Purchases	47	5
Feed Grain Purchases	72	67
Hay Purchases	273	174
Home Grown Grain	137	154
Home Grown Hay	226	292
Complete Feed	235	109
Supplement	46	36
Straw	18	16
Mineral and Vitamins	19	16
Total Feed Purchases	1,026	864
Milk Hauling	99	70
Milk Marketing	124	86
Vet and Medicine	51	40
Testing Service	7	3
Breeding Service	26	15
Milking Supplies	52	53
Insurance	33	35
Utilities	64	68
Building R & M	55	48
Total Related Expenses	511	418
Livestock Hauling	7	7
Milk Replacer	7	5
Fuel and Lubricants	53	52
Equipment R & M	63	75
Hired Labour	151	89
Custom Work	22	22
Property Tax	4	9
License	6	3
Rentals	9	39
Legal and Accounting	12	6
Miscellaneous	5	11
Total Miscellaneous Cost	339	318
Operating Interest	24	20
Total Cash Expenses	1,947	1,625
Non Cash Expenses		
Machinery Depreciation (15%)	51	40
Building Depreciation (5%)	94	54
Total Non Cash Expenses	145	94
Total Cost of Production	2,092	1,719

